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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,864	06/01/2000	Guy Nathan	871-81	4657

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EXAMINER	
FLANDERS, ANDREW C	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/583,864	NATHAN ET AL.	
	Examiner	Art Unit	
	Andrew C. Flanders	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claim 1 is withdrawn in view of the newly discovered reference(s) to Kokkosoulis (U.S. Patent 6,498,855). Rejections based on the newly cited reference(s) follow.

Claim Objections

Claim 2 objected to because of the following informalities:

The distinction between the maximum amplitude values for all frequencies combined and the maximum amplitude values for frequencies audible for the human ear is not clearly made. The vague distinction occurs particularly in the third step of Claim 2 and requires minor clarification. Secondly, the phrase "the order number" is not defined clearly. Finally the phrase "ranks less with reference to the rank of the maximum amplitude" is not clear. There is no clarification of the word rank, nor is it defined within the claim language. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kokkosoulis (U.S. Patent 6,498,855)

Regarding **Claim 1**, Kokkosoulis discloses:

Process for adjusting the sound volume of a digital sound recording (title), comprising:

determining, in absolute values, for a recording, the maximum amplitude values for sound frequencies audible for the human ear (i.e. the system determines the maximum absolute input sample amplitude, x_{max}; col. 3 lines 45 – 50);

calculating the possible gain for a specified sound level setting, between the maximum amplitude value and the maximum amplitude value for all frequencies combined (i.e. the user inputs an output volume control value (*max amplitude value for all frequencies*); col. 4 lines 4 – 8; the system then calculates y_{max} from the input; equation (4); the system calculates n and L based upon the differences of x_{max} and y_{max}; equations 5 and 6; then the system attenuates the input samples using these calculations according to equation 1);

reproducing the recording by automatically adjusting the amplification gain level making it possible to obtain a sound level for the recording of a specified value so that it corresponds to the gain calculated for this recording (using equation 1, the system selectively attenuates the samples, determines if the attenuation has changed, and then outputs it; Fig. 2 elements 35, 36 and 37).

Regarding **Claim 8**, in addition to the elements stated above regarding claim 1, Kokkosoulis further discloses:

wherein the reproduction step comprises a dynamic reproduction sound level adjustment step on the recording including authorizing a specified gain for the low-pitched and/or high-pitched sounds in the recording, the gain corresponding approximately to the attenuation applied during the reproduction of the recording (i.e. the volume is selectively attenuated based upon the input and then output; Fig. 2 elements 34 – 36).

Regarding **Claim 9**, in addition to the elements stated above regarding claim 1, wherein said process is provided on an audiovisual reproduction system wherein 'the recording is stored in memory in the reproduction system with the corresponding calculated gain, and further wherein an audiovisual reproduction system reading means giving access to the gain value to control the-gain circuits of a digital signal processing processor of the digital audiovisual reproduction system to adjust the sound level accordingly (i.e. the volume is selectively attenuated based upon the input and then output; Fig. 2 elements 34 – 36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokkosoulis (U.S. Patent 6,498,855).

Regarding **Claim 2**, in addition to the elements stated above regarding claim 1 Kokkosoulis further discloses:

wherein the maximum amplitude value determination step comprises:

counting the number of samples of the recording with a specified amplitude, for all the amplitudes existing in the recording, classifying the amplitudes of the number of samples found in increasing order (i.e. Equation (3) effectively states that the highest input amplitude sample is subjected to the maximum desired attenuation; col. 3 lines 30 – 35. It is obvious that the samples will be ranked or placed in order in some distinct way in order to find the maximum. Counting the samples and placing them in increasing order is a merely one of many possible implementations. It is merely a design choice that does not have a clear advantage over the prior art in the form of a new or unexpected result.); and

storing in memory the maximum amplitude for all frequencies combined (i.e. the user input value is fed into variable A of equation 4, co. 4 lines 4 – 8),

and the amplitude, for which the order number in the classification is carried out n, ranks less with the reference to the rank of the maximum amplitude, the amplitude found corresponding in this case to the maximum amplitude for frequencies audible for

the human ear (i.e. xmax represents the maximum absolute input sample and is placed into the equations; col. 3 lines 35 – 50 and equation 1).

Regarding **Claim 3**, in addition to the elements stated above regarding claim 2, Kokkosoulis further discloses:

Wherein n is determined so that the degradation of the reproduction quality of the recording is not perceptible to the human ear (i.e. D is the maximum range for a given bit resolution, 90.3087 for 16 bit PCM audio samples; col. 3 lines 50 - 52).

Regarding **Claim 4**, in addition to the elements stated above regarding claim 2, Kokkosoulis further discloses:

Wherein n is of the order of 10 and preferably equal to 4 or 5 (i.e. D is the maximum range for a given bit resolution, 90.3087 for 16 bit PCM audio samples; col. 3 lines 50- 52, depending on the number of samples, D is adjustable and could equal 10 depending on the resolution).

Regarding **Claim 5**, in addition to the elements stated above regarding claim 1 Kokkosoulis further discloses:

wherein the maximum amplitude value determination step comprises:

counting the number of samples of the recording with a specified amplitude, for all the amplitudes existing in the recording, classifying the amplitudes of the number of samples found in increasing order (i.e. Equation (3) effectively states that the highest

input amplitude sample is subjected to the maximum desired attenuation; col. 3 lines 30 – 35. It is obvious that the samples will be ranked or placed in order in some distinct way in order to find the maximum. Counting the samples and placing them in increasing order is a merely one of many possible implementations. It is merely a design choice that does not have a clear advantage over the prior art in the form of a new or unexpected result.); and

Kokkosoulis does not explicitly disclose calculating the mean value A_{mean} of the n' highest amplitudes occurring at least k' times in the recording.

However, it would have been obvious to one of ordinary skill in the art to substitute an average value in place of xmax. One would have been motivated to do so in order to better control the audio output by avoiding outliers such as clicks and pops that might create a large amplitude value.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kokkosoulis (U.S. Patent 6,498,855) in view of Pohlmann (Principles of Digital Audio).

Regarding **Claim 6**, in addition to the elements stated above regarding claim 1, Kokkosoulis fails to disclose the limitations of claim 6.

Pohlmann discloses:

compressing the recording using at least one psycho-acoustic mask making it possible to eliminate inaudible sounds form the initial recording (i.e. Pohlmann discloses the MPEG-1 Layer III standard uses psychoacoustic models to determine the minimum

masking threshold for inaudibility; ages 388 and 389; and compressing using MPEG-1 Layer III; pages 386, 387 and 388);

decompressing the recording (i.e. Fig. B on page 387 discloses an MPEG-1 Layer III decoder).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the compression techniques taught by Pohlmann to the audio of Kokkosoulis. One would have been motivated to do so in order to reduce the amount of space required for storage of the audio signals.

The combination further discloses:

searching the maximum amplitude on the decompressed recording, this amplitude corresponding in this case to the maximum amplitude frequencies audible for the human ear (i.e. xmax represents the maximum absolute input sample and is placed into the equations; col. 3 lines 35 – 50 and equation 1 in Kokkosoulis)

Regarding **Claim 7**, in addition to the elements stated above regarding claim 6, the combination of Kokkosoulis in view of Pohlmann further discloses:

wherein the psycho-acoustic mask is applied using a compression process (i.e. MPEG-1 Layer 3; pages 385 – 388).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

acf

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